

REMARKS

This is in response to the non-final Official Action currently outstanding with respect to the above-identified application.

Claims 1-16 were present in this application as of the time of the issuance of the currently outstanding Official Action. By the foregoing Amendment, no claims have been amended. Claims 1-16 have been cancelled, without prejudice, and Claims 17-32 have been added. Accordingly, upon the entry of the foregoing Amendment, Claims 17-32 will constitute the claims under active prosecution in this application.

A version of the claims as they will stand upon the entry of this amendment is set forth above as required by the Rules.

More specifically, it is noted that in the currently outstanding Official Action, the Examiner has:

1. Acknowledged Applicants' claim for foreign priority under 35 USC 119(a)-(d), and indicated that the required certified copies of the priority document have been received by the United States Patent and Trademark Office.
2. Provided Applicants with a copy of a Notice of References Cited (Form PTO-892) and copies of the references cited therein.
3. Acknowledged Applicants' Information Disclosure Statement by providing Applicants with a copy of the Form PTO-1449 that accompanied that Statement duly signed, dated and initialed by the Examiner to confirm his consideration of the art disclosed therein;

4. Indicated that the drawings originally filed with this application have been accepted.
5. Rejected Claims 1-4 under 35 USC 102(b) as being anticipated by the Lee reference (US Patent No. 5,936,687).
6. Rejected Claims 9-12 under 35 USC 103(a) as being unpatentable over the Lee reference.
7. Rejected Claims 5-8 and 13-16 under 35 USC 103(a) as being unpatentable over the Lee reference in view of the Kim, et al reference (US Patent No. 6,246,074).

Further comment with respect to items 1-4 is not deemed to be required in these Remarks.

With respect to items 5-7, the Examiner's attention is respectfully called to the foregoing Amendment wherein Applicant has cancelled all of the presently pending claims and represented the subject matter thereof as Claims 17-32 a manner that more clearly and distinctly sets forth the subject matter that Applicant regards as his invention. In view of this Amendment, Applicant respectfully submits that none of the claims that will remain in this application upon the entry of the foregoing amendment are either anticipated within the meaning of 35 USC 102(b) by the Lee reference or unpatentable under the terms of 35 USC 103(a) over either the Lee reference alone or over the Lee reference considered in light of the Kim, et al reference.

More specifically, it will be understood that the foregoing amended claims now clearly define a liquid crystal display device and a testing method for use therewith. In this invention three distinct types of data signal lines are provided in recurrent groupings along with a short-circuiting bar for providing testing voltages to the data signal lines and a variable voltage source connected to the counter electrode of the display device for providing voltages to the counter electrode according to the test voltage applied to the display signal lines. As a result, the device may be tested by providing a selected one of the test voltages to the data signal lines via the short-circuiting bar while providing a preselected voltage associated with that testing voltage to the counter electrode. The voltages applied to the data signal lines and to the counter electrode are selected relative to one another such that the liquid crystal material becomes transparent in the volume between the pixels connected to the data signal lines of one type and the counter electrode while volumes between the pixels connected to the data signal lines of the other types and the counter electrode are not light transmitting (assuming no short circuit either in the pixel or between pixels).

The Lee reference, on the other hand, is directed to protecting a liquid crystal display against static electrical effects. This is accomplished by making passages in which static electricity may flow by connecting diodes between a plurality of data lines, gate lines and a plurality of shorting lines in the same or opposite direction as the current flow. Similarly, the Lee reference provides a testing method that checks whether or not the data lines and gate lines are shorted by applying signals to the data lines and gate lines through the shorting lines and making mutually inverted output voltages appear in contiguous pixels. (See, Lee abstract)

Also, the Kim et al reference is quite different from the present invention in that it discloses a circuit for detecting breaks in gate lines and data lines that uses various shorting bars.

Neither of the cited references teaches, discloses or suggests a liquid crystal display device and testing method therefore in which the structure and test method are directed to selectively causing the liquid crystal material to transmit light. Hence, neither of the cited references is concerned with (much less teaches, discloses or suggests anything regarding) the application of selected test voltages to all of a plurality of different types of data signal lines in association with voltages applied to the counter electrode related specifically to each test voltage selected as is in the present invention.

Accordingly, Applicant respectfully submits that as clarified in the foregoing amendment the present invention as now claimed is neither anticipated nor obvious in view of the currently cited and applied prior art.

Reconsideration of this application and the allowance of Claims 17-32 of in response to this communication, therefore, are respectfully requested.

Finally, Applicants believe that additional fees are not required in connection with the consideration of this response to the currently outstanding Official Action. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge and/or credit Deposit Account No. **04-1105**, as necessary, for the correct payment of all fees which may be due in connection with the filing and consideration of this communication.

Respectfully submitted,

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